

CLAIMS

What is claimed is:

1. A method for aligning a macro instruction stream comprising:
rotating data bytes of the macro instruction stream; and
shifting the data bytes to the start of a macro instruction based upon a length of
an immediately prior macro instruction.
2. The method of claim 1 wherein the rotating and shifting are performed during a
single clock cycle.
3. The method of claim 1 further comprising:
receiving a length of an immediately prior macro instruction from a length
decode logic unit.
4. The method of claim 1 further comprising:
storing macro instruction stream cache lines in alignment buffers prior to
rotating the macro instruction stream.
5. The method of claim 1 wherein said shifting shifts to an exact start of the macro
instruction.
6. The method of claim 1 further comprising:
providing the output of the shifting step to a length decode logic unit.

Sub B9
A72
1 7. Logic for aligning a macro instruction stream comprising:

2 a rotator logic unit for rotating data bytes of the macro instruction stream;

3 a shifter logic unit for shifting the data bytes to the start of a macro instruction

4 based upon a length of an immediately prior macro instruction.

1 8. The logic of claim 7 wherein the rotating and shifting are performed during a single
2 clock cycle.

Sub B
A72
B10
1 9. The logic of claim 7 further comprising:

2 a length vector for providing the length of an immediately prior macro
3 instruction.

1 10. The logic of claim 7 further comprising:

2 alignment buffers for storing macro instruction stream cache lines for use by the
3 rotator logic unit.

1 11. A processor to align a macro instruction stream comprising:

2 a rotator logic unit for rotating data bytes of the macro instruction stream;

3 a shifter logic unit for shifting the data bytes to the start of a macro instruction

4 based upon a length of an immediately prior macro instruction.

1 12. The processor of claim 11 further comprising:

2 a length vector for providing the length of an immediately prior macro
3 instruction.

1 13. A system for aligning a macro instruction stream comprising:
2 means for rotating data bytes of the macro instruction stream; and
3 means for shifting the data bytes to the start of a macro instruction based
4 upon a length of an immediately prior macro instruction.

add
C1

25